1. Remove old JBoss EAP

Shutdown the JBoss EAP service using Windows Services app. Remove the existing service by opening a CMD prompt, changing directory to <JBOSS\_HOME>/modules/native/sbin. Execute the command

services.bat uninstall

1. Copy Existing pacbridge.xml file

You will need to save a copy of the existing pacbridge.xml file found <JBOSS\_HOME>/domain/configuration.

1. Install Java 8

Download Java 8 from <http://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html> and install it into a directory of your choice. Do not uninstall the old version of Java at this time. If you plan to run older version of the PAC bridge on the same machine as the FIG bridge, you will have to adjust startup scripts for the old PAC Bridge to use the older version of Java. Change/device the system variable

JAVA\_HOME=<path-to-java>

1. Extract Wildfly

Extract the wildfly.zip file into a directory of your choice.

1. Change System Variable

Open whatever app you need to change system variables and define these:

JBOSS\_HOME=<path-where-jboss-lives>  
 WILDFLY\_HOME=%JBOSS\_HOME%

1. Configure the pacbridgeDS datasource.

Edit the file %JBOSS\_HOME%\domain\configuration\domain.xml and search for the following element:

<datasource jndi-name="java:jboss/datasources/pacbridgeDS" pool-name="pacbridgeDS"…

You need to edit this element and replace the items in red with the values appropriate for your environment.

<datasources>

<datasource jndi-name="java:jboss/datasources/pacbridgeDS"

pool-name="pacbridgeDS"

enabled="true"

use-java-context="true">

<connection-url>  
 jdbc:oracle:thin://@%DB\_HOST\_NAME%:1521:%DB\_SID%  
 <connection-url>

<driver>oracle</driver>

<pool>

<min-pool-size>1</min-pool-size>

<max-pool-size>3</max-pool-size>

<prefill>true</prefill>

<flush-strategy>FailingConnectionOnly</flush-strategy>

</pool>

<security>

<user-name>%USERNAME%</user-name>

<password>%PASSWORD%</password>

</security>

<validation>

<valid-connection-checker   
 class-name=  
"org.jboss.jca.adapters.jdbc.extensions.oracle.OracleValidConnectionChecker"/>

<background-validation>true</background-validation>

<background-validation-millis>60000</background-validation-millis>

</validation>

</datasource>

<drivers>

<driver name="oracle" module="com.oracle">

<driver-class>oracle.jdbc.driver.OracleDriver</driver-class>

</driver>

</drivers>

</datasources>

You will need to replace the following:

|  |  |
| --- | --- |
| Variable Name | Description |
| %DB\_HOST\_NAME% | The hostname or IP address of the database server |
| %DB\_SID% | The DB SID |
| %USERNAME% | Username |
| %PASSWORD% | Password |

1. Change the Cluster Name

At the bottom of the domain.xml file, you will find an element that looks like this:

<server-group name="quarterly-server-group" profile="full-ha">  
 <jvm name="default">  
 <heap size="64m" max-size="512m"/>  
 </jvm>  
 <socket-binding-group ref="full-ha-sockets"/>  
 <deployments>  
 </deployments>  
 </server-group>

I have set the name of the server group to “quarterly-server-group”. This name uniquely identifies a cluster of server and is appropriate for the QUARTERLY environment however it must be changed if you want to create another cluster. ***NOTE: this is not the only thing that needs to be done to create a new cluster.***

1. Change Multicast Port Numbers

Search the domain.xml file for the following element:

<socket-binding-group name="full-ha-sockets" default-interface="public">

Under this element, you will find these for sub elements:

<socket-binding name="http" port="8080"/>

<socket-binding name="jgroups-mping" interface="private" port="0" multicast-address="${jboss.default.multicast.address:230.0.0.4}" multicast-port="45700"/>

<socket-binding name="jgroups-udp" interface="private" port="55200" multicast-address="${jboss.default.multicast.address:230.0.0.4}" multicast-port="45688"/>

<socket-binding name="modcluster" port="0" multicast-address="224.0.1.105" multicast-port="23364"/>

As well, if you are running the FIG bridge on the same machine as the ZPP, you must change the <socket-binding name=”http”…> element’s port number to 8060.

In order to isolate different clusters from each other, the multicast-port numbers must be changed. Choose three unique numbers, greater than 23000. When installing other cluster, you must do the same thing, but the port number must be different from other numbers you use.

1. Configure the WebSphere MQ properties

In the domain.xml file, you will find a section that looks like this:

<system-properties>  
 <property name="websphere.hostName" value="csmqdev1.zedisolutions.com"/>  
 <property name="websphere.port" value="1414"/>  
 <property name="websphere.channel" value="SYSTEM.ADMIN.SVRCONN"/>  
 <property name="websphere.transportType" value="CLIENT"/>  
 <property name="websphere.queueManager" value="QM\_csmqdev1"/>  
 <property name="websphere.eventQueueName" value="lclp.eventQueue"/>   
 <property name="websphere.eventsTopicName" value="scada/system/events"/>  
 <property name="websphere.resource.adapter" value="wmq.jmsra-8.0.0.4.rar"/>  
 </system-properties>

You will need to change the items highlighted in red. You can get these values from the existing pacbridge.xml file. You may not have to change the “websphere.eventsTopicName” or “websphere.eventQueueName” values. You will notice that the value for “websphere.eventsTopicName” previously defined in the pacbridge.xml file was prefixed with “topic://”. This is no longer necessary.

1. Modify Management Interfaces in host.xml file

Find this element:

<management-interfaces>

<native-interface security-realm="ManagementRealm">

<socket interface="management" port="${jboss.management.native.port:9999}"/>

</native-interface>

<http-interface security-realm="ManagementRealm" http-upgrade-enabled="true">

<socket interface="management" port="${jboss.management.http.port:9990}"/>

</http-interface>

</management-interfaces>

If you are running the FIG bridge on the same machine as the ZPP, you must change the port number for the management interface (the element shown in red above) to 8888. I.e.:

<socket interface="management" port="8888"/>

1. Modify Interfaces Address

Search for the element:

<interfaces>  
 <interface name=*"management"*>  
 <inet-address value=*"<ipadress>"*/>  
 </interface>  
 <interface name=*"public"*>  
 <inet-address value=*"<ipadress>"*/>  
 </interface>  
</interfaces>

Changed the <ipaddress> to the IP address of the local machine.

1. Modify and Install the pacbridge.xml file

Edit you copy of the pacbridge.xml file and remove the <Jms> element from the file. It is no longer necessary. Once it is saved, copy the file to <JBOSS\_HOME>/domain/configuration.

1. Create new JBoss service

Open a command window and change directory to <JBOSS\_HOME>/modules/native/sbin. Edit the services.bat file and change the following lines:

set WILDFLY\_HOME=d:\java\wildfly-10.0.0.Final  
set LOCAL\_IP\_ADDRESS=192.168.169.64

To

set WILDFLY\_HOME=<path-to-wildfly>  
set LOCAL\_IP\_ADDRESS=<local-ip-address>

Once these changes are made, execute the command:

services.bat install

This will create a new service to run JBoss called “JBoss Wildfly”.

1. Start JBoss Wildfly service

Open up the Windows Services applet and start the JBoss Wildfly service. You can check the server log file to see if any error occur by tailing the file:

<JBOSS\_HOME>/domain/servers/<server-name>/log/server.log

1. Install the WebSphere MQ Resource Adapter.

Installing content into to JBoss Wildfly involves first adding the content, assigning it to a server group, and then enabling for the server group. Follow the steps below

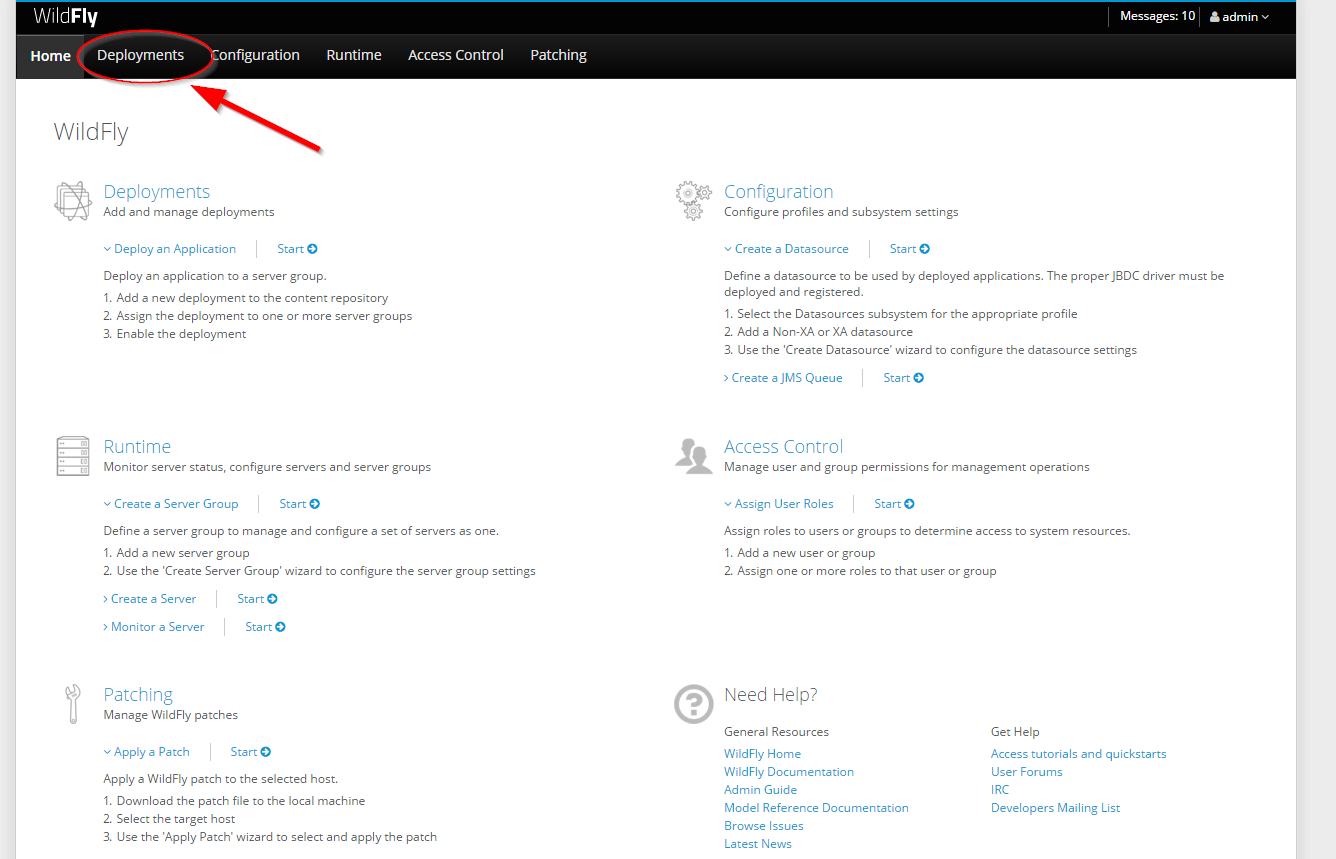
* Open a browser and connect to the JBoss admin console:

http://<local-ip-address>:9990

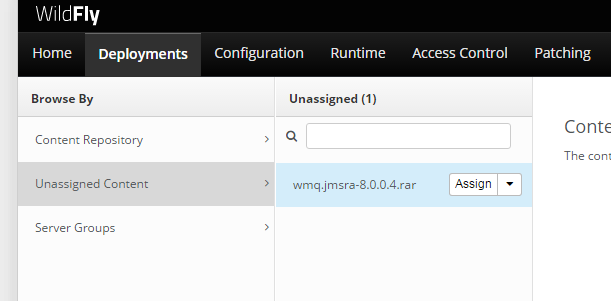
* You will be prompted for a username password. Enter

Username: admin  
 Password: .Password1

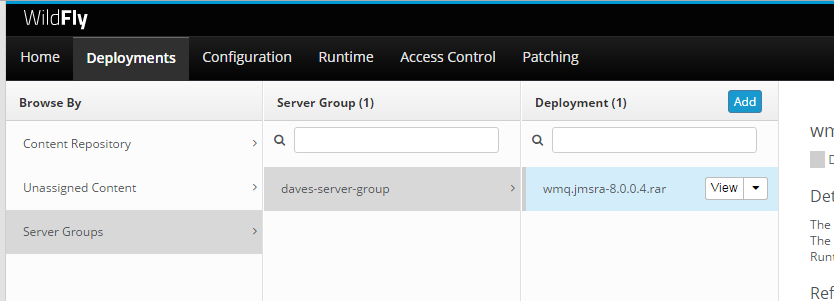
* You will notice that Wildfly’s management pages are very different from the old JBoss EAP management pages.

****

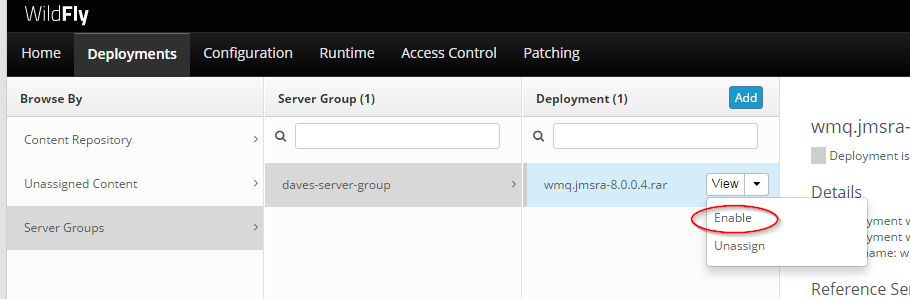
* Click the “Deployments” tab.
* Click “Content Repository”
* Click “Add”
* Select “Upload a new deployment” and click “Next”
* Click “Choose File” and navigate to the location of the wmq.jmsra-8.0.0.4.jar. Select this file and then click “Next”. You will then be asked to confirm.
* wmq.jmsra-8.0.0.4.rar will then show up as a “Content”.
* Click “Unassigned Content” and then click wmq.jmsra-8.0.0.4.rar. A button will appear beside the file name:



* Click “Assign” (Not the down arrow). A window will pop up showing the available server groups. You should only see one option. The name that you assigned to you cluster in “Change the Cluster Name“ above. Check the box and click “Assign”.
* Click “Server Group”, then click the name of your server group, and then the wmq.jmsra-8.0.0.4.rar file. A “View” button will pop up beside wmq.jmsra-8.0.0.4.rar.



* Click the down arrow beside “View” and select “Enable”.



1. Install the FIG bridge ear file.

Follow the same step to install the FIG Bridge ear file.